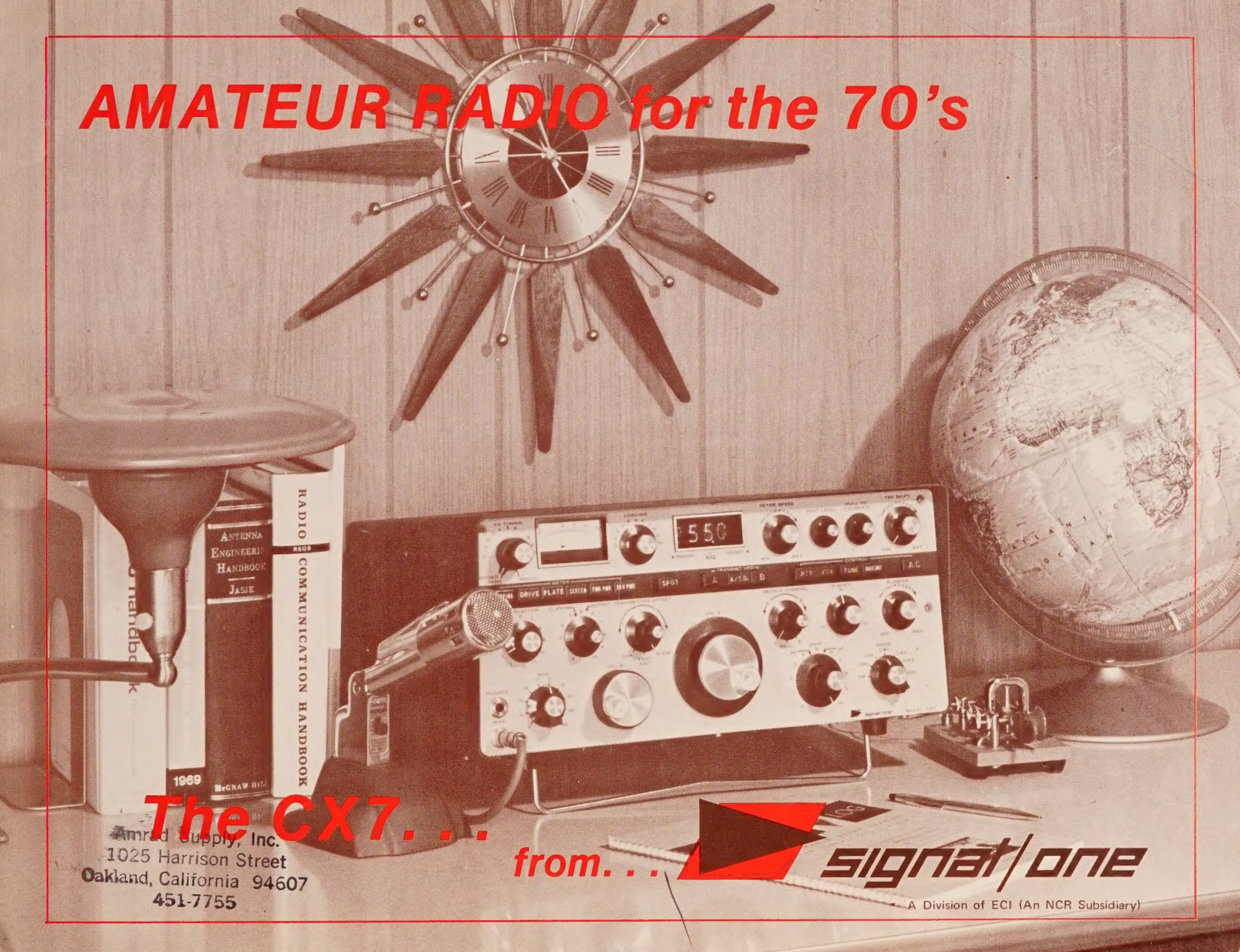


AMATEUR RADIO for the 70's



The CX7...

from...



signal one

Amrad Supply, Inc.
1025 Harrison Street
Oakland, California 94607
451-7755

A Division of ECI (An NCR Subsidiary)

Many of the CX7's Revolutionary Capabilities are Obvious. . .

INSTANT BAND CHANGE without tuneup is made possible by the CX7's broadband driver and bandpass P.A. output filters pre-tuned for each ham band from 160 through 10 meters. Badly mismatched or reactive loads (into which no broadband amplifier can deliver full power output and linearity) may be manually matched in a few seconds.

METERING OF ALL CRITICAL FUNCTIONS . . . at the push of a button.

RF ENVELOPE CLIPPING delivers clean, crisp SSB with the talk power that no other type of speech processing can match. This signal *penetrates!*

ALL HAM BANDS from 160 through 10 meters in full 1 MHz ranges plus overlap and three **spare bands** for AF MARS, SWL, marine or other special use.

HANG AGC levels out wide swings in signal strength, yet doesn't "pump" on normal conversation. Selectable "hang" time.

PUSH-BUTTON SPOTTING lets you instantly check exact transmit frequency . . . read it at a glance . . . hear an audible beat if it's within 2 kHz of the receive frequency.

DIRECT, INSTANTANEOUS FREQUENCY READOUT TO 100 Hz from the built-in integrated circuit digital counter. No more squinting, extrapolating, interpolating or ambiguous dial readings. The display shows exactly where you are transmitting or receiving - instantly.

BUILT-IN DIGITAL KEYS

FAST, SILENT DIGITAL VOX means no more clanking relays or clipped syllables - designed to be used.

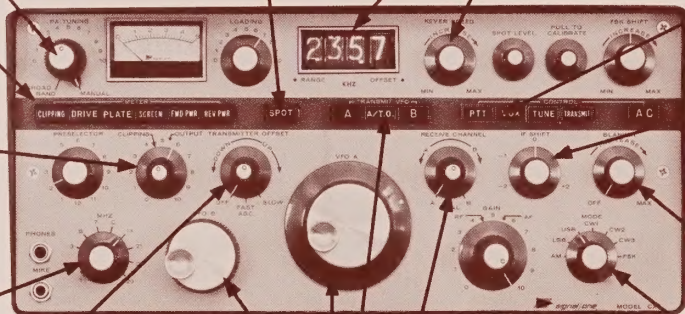
IF SHIFT control lets you move the received signal plus or minus 2 kHz from nominal within the extremely steep-skirted IF filter passband to slice away QRM . . . attenuate a heterodyne by 50 db without affecting a desired signal only 500 Hz away!

PRE-IF NOISE BLANKER gets to impulse noise before it can get to critical selective circuitry.

ALL POPULAR MODES of operation
Upper and Lower sideband
FSK MODULATOR PLUS
IF Shift allows use with popular
2125/2975 Hz frequencies.

STATE-OF-THE-ART CW . . . at last!
TRUE BREAK-IN (not just VOX)
RAZOR-SHARP SELECTIVITY options
INSTANT SPOTTING with choice of . . .
SPLIT FREQUENCY (dual VFO's) or
VARIABLE TRANSMITTER OFF-SET, which lets you enjoy all the convenience of transceiving on CW; you can set the transmitter up to 2 kHz above or below the receiver instantly!

TRANSCIVER-PLUS-RECEIVER PERFORMANCE with two identical precision VFO's, each tuning a full 1 MHz range plus ample end overlap for MARS, etc. **SIGNAL/ONE's** unique dual-receive system permits listening simultaneously to two different frequencies anywhere in the band, with **relative RF gain control** - essential to avoid suppression of a weak signal by a stronger one. And you can transmit on either frequency, too.



Only a CX7 Owner Can Fully Appreciate Its. . .

Performance. . .

SPECTACULAR SELECTIVITY from three cascaded crystal filters is located ahead of most receiver gain for outstanding dynamic range. Optional filters for CW or FSK are cascaded with one SSB filter, insuring unprecedented skirt selectivity and ultimate rejection in all modes.

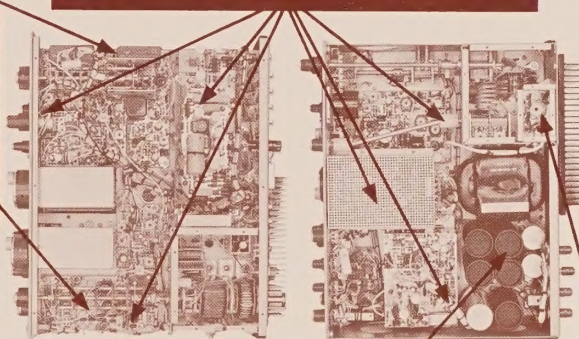
DUAL-GATE MOSFET FRONT END provides outstanding sensitivity plus exceptional resistance to overload. Toroidal preselector helps achieve superb cross-modulation and desensitization immunity. Steep-skirted bandpass first IF above 30 MHz yields excellent IF and image rejection while avoiding "forbidden bands" in frequency capability of the CX7.

HIGH EFFECTIVE POWER OUTPUT . . . 300 watts PEP input combined with the high average power content of RF-clipped SSB makes the CX7 perform more like a KW . . .

Quality. . .

INSTRUMENT GRADE COMPONENTS throughout . . . silicon semiconductors, long-life Nixies, rugged ceramic switches in P.A., taut-band meter . . .

GLASS EPOXY ETCHED CIRCUIT BOARDS . . . Same G-10 material used in military and space equipment.



RUGGED POWER SUPPLY for continuous duty service.

Convenience. . .

EVERYTHING YOU NEED for flexible, high performance communications . . . in one sleek cabinet!

STANDARD "BUILT-INS" save cost, space, confusion.

- Heavy duty AC power supply
- RF clipper
- Second Receiver capability
- CW keyer
- Precision frequency meter/calibrator

FREEDOM FROM CLUTTER. . . with all the essential "accessories" built in, there's no need for a tangle of patch cables. Just add an antenna and mike or key.



CONDUCTION-COOLED FINAL AMPLIFIER has ample reserve power dissipation capability to run all day at full rated input . . . even on FSK. No more "key down" time limits. And linearity is excellent.

"It Speaks for Itself"



See your authorized SIGNAL/ONE distributor for the full story on the DELUXE INTEGRATED STATION . . . SIGNAL/ONE's CX7.

Specifications - Model CX7

GENERAL

FREQUENCY COVERAGE: All amateur bands 1.8 - 30.0 MHz in full 1 MHz ranges. An additional 1 MHz band may be added in each of the three ranges, 2.0 - 3.0, 4.0 - 7.0 and 8.0 - 14.0 MHz, by supplying appropriate crystals.

VFO's: Two identical, permeability-tuned precision oscillators; 1 MHz tuning range with nominal 25 kHz per knob revolution.

READOUT: Accuracy, linearity, and resettability to 100 Hz at any point in any band after calibration at any 100 kHz checkpoint in that band. Integrated circuit digital frequency counter with miniature, high-intensity long-life Nixie display instantly shows actual frequency being received or transmitted.

SPOTTING: Push button provides audio beat note for spotting when using separate VFO's or Transmit Offset/Transceive Mode.

T/R SWITCHING: Push-to-talk or fast-attack VOX; instantaneous break-in CW; fast key-up receiver recovery independent of AGC decay. Isolated terminals for control of external amplifier.

CW KEYS: Built-in electronic keyer, 5-50 wpm. Separate jacks for keyer paddle and manual key.

FREQUENCY CONTROL MODES: Transceive with either VFO, "split" using both VFO's, transceive on either VFO plus independent receive-only on the other, or "Transmit Offset" transceive (transmit frequency tracks receiver and may be instantly offset up to plus or minus 2 kHz from receive frequency).

EMISSION MODES: SSB, CW, FSK, compatible AM.

POWER SUPPLY: Built-in heavy-duty supply for 115/230 volts, 60 Hz. Silectron® transformer for exceptional regulation and power with very small size and weight. Requires approximately 100 watts receive, 400 watts peak at full input.

CONSTRUCTION: All critical circuitry (except P.A. and large power supply components) is modular on glass epoxy etched circuit boards.

SIZE AND WEIGHT: 16-1/4" w. x 7-1/4" h. x 14" deep overall, less feet. 35 pounds.

RECEIVING SYSTEM

ACTIVE DEVICES: 16 digital integrated circuits, 14 linear integrated circuits, 100 silicon transistors, one ceramic/metal P.A. tube.

SENSITIVITY: Better than 10 db signal-plus-noise-to-noise ratio for 1/3 microvolt input at 10 meters (2 kHz bandwidth).

SELECTIVITY: STANDARD (SSB) - 2 kHz @ -6db, 1.5:1 (6:60 db) shape factor (two cascaded 8-crystal lattice filters).

OPTIONAL

- Standard CW - 400 Hz with 4:1 shape factor
- Deluxe CW - 300 Hz with 2:1 shape factor
- Standard FSK - 1200 Hz with 2:1 shape factor

(Internal sockets provided for two optional filters).

ULTIMATE ATTENUATION: More than 60 db.

IMAGE AND IF REJECTION: More than 60 db.

INTERNAL SPURS: Less than 1μv equivalent.

AGC: Fast attack with selectable 10 ms decay or 300 ms hang time; less than 6 db audio output change for signal level from 1μv to 100 mv.

FRONT END DYNAMIC RANGE: A 10 microvolt desired signal will be modulated less than 10% by an unwanted 10,000μv signal 10 kHz away modulated 30% at 400 Hz, or by a similar 100,000μv signal 5% removed in frequency.

AUDIO OUTPUT: 1 watt.

IF SHIFT: Second IF adjustable up to plus or minus 2kHz with respect to IF filter passband for interference rejection and receiver audio passband selection. Tracking error, zero.

DUAL RECEIVE: Two channels usable separately or simultaneously; continuously variable relative RF gain control. Either channel may be used for transceiving and the other for receive-only.

NOISE BLANKER: Pre-IF blanker with adjustable threshold.

TRANSMITTING SYSTEM

TUNING: Pretuned bandpass output filter requires no adjustment when feeding nominal 50 ohm resistive load in amateur bands; manual tuning and loading for out-of-band or high SWR operation. Driver broadband 1.8 - 30.0 MHz.

POWER AMPLIFIER: Solid state, completely broad-band driver; rugged, ceramic-metal 8072 tetrode final amplifier conduction-coupled to massive extruded heat sink. 150 watts continuous dissipation rating at 25°C ambient.

POWER LEVEL: Nominal 300 watts PEP input, 150 watts PEP output all bands and modes. Output continuously adjustable down to less than 1 watt.

DUTY CYCLE: Continuous at rated PEP input all modes.

CARRIER AND UNWANTED SIDEBAND SUPPRESSION: 60 db.

DISTORTION: Third-order intermodulation products more than 30 db below each of two equal tones at full rated output.

SPEECH PROCESSING: RF envelope clipper plus cascaded 8-crystal filters in SSB and compatible AM (USB with carrier) modes. Clipping adjustable 0-20 db nominal.

METERING: Clipping, drive level, plate and screen currents, forward and reflected RF power.



 **signal/one**

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